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Myth 4: A Single Test Score or Indicator Tells Us All We Need to Know About Giftedness

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There is a fallacy about identifying gifted and talented children and youth that refuses to go away: It is the notion that a single score is *sufficient* for determining giftedness (see Treffinger, 1982). In the following paragraphs, I address briefly several reasons for the longevity and ubiquity of this myth, as well as the data that call the myth into question. These include (a) the predictive validity of test scores, (b) the belief that ability is fixed, and (c) the lack of attention to and evidence for other explanations for outstanding achievement. The focus of this article is on the academic domains and IQ, as there are few who argue that a single score predicts performance in the visual and performing arts.

Predictive Validity of Test Scores

The special importance accorded to IQ scores is based on the copious literature on the predictive validity of standardized scores with regard to academic outcomes, income, and job performance (Brody, 1997). General intelligence, or *g*, is the strongest individual predictor of academic performance in any domain other than previous performance in that domain. Researchers have demonstrated in several longitudinal studies that even when working with the top 1% of individuals on a standardized test—in this case, the Scholastic Aptitude Test (SAT)—there are differences in accomplishments between those in the first and fourth quartiles (Wai, Lubinski, & Benbow, 2005), and findings like these fuel the myth.

However, even leading proponents of *g* and test score use acknowledge that (a) IQ scores account for only about 25% of the variance in achievement (Neisser et al., 1996), (b) there is a reciprocal relationship between years of schooling and IQ (Ceci & Williams, 1997), (c) that all test scores are not equally useful across all domains (Lubinski, 2004;

Park, Lubinski, & Benbow, 2007), and (d) factors other than test scores make substantial contributions to outstanding accomplishments. For example, Park et al. (2007) found that to predict creativity in the verbal and math domains, one needs to use both verbal and math scores as well as the relative strengths in math and verbal scores—that is, three predictors rather than one. Similarly, Wai et al. (2005) reported that individual preferences add unique variance to SAT scores in predicting exceptional achievements in the world of work. Finally, several researchers have shown that spatial ability contributes to more accurate predictions of accomplishments in some STEM fields (Webb, Lubinski, & Benbow, 2005; Winner 2009). Thus, although test scores matter, no single score tells the whole story.

Conceptions of Ability as Fixed

The substantial predictive validity of IQ has contributed to the notion of ability as fixed (see Dweck, 2000). Teachers and parents describe individuals who are doing well in a domain without visible effort as “bright,” “smart,” and “gifted,” and describe individuals who are doing equally well, but who seem to have to *work* at it more as “hard workers” and “conscientious.” Thus, individuals distinguish between perceived *effortless* and *effortful* accomplishments, often classifying the former as innate. Moreover, they ignore the substantial investments of effort and time and the role that opportunity and teaching in outstanding performance (see Gladwell, 2008, for an accessible explanation about the role of these constructs).

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Researchers in gifted and talented education (GATE) are complicit in perpetuating the myth of the single score by reifying the term, *gifted*. GATE literature is replete with notions of the *qualitative* differences between those classified as gifted and those who are not, despite the fact that most of our selection tools are quantitative indicators of performance. Moreover, test scores are frequently used as *the* marker of giftedness in empirical studies, including the growing literature on gifted underachiever defined as individuals with high standardized test scores but poor performance (Reis & McCoach, 2000). Thus, the GATE literature suggests that time commitment, motivation, and actual performance are ancillary to outstanding performance, and crowns IQ as the defining characteristic of giftedness.

Other Explanations for Outstanding Achievement

There are many other variables that contribute to outstanding achievement. In this article, I will focus on one of the cultural explanations that have formed a large part of the rhetoric with regard to low achievement, but have typically been ignored with regard to GATE (see Worrell, 2009, for a review of these). There has been considerable debate about *bias* in standardized test scores, given the mean differences between some ethnic minority groups—especially African American, American Indian, Latinos—and European American and some Asian American groups, and the concomitant underrepresentation of the marginalized groups in GATE programs. Although beyond the scope of this article, it is worth noting here that mean score differences do not indicate bias (Frisby & Braden, 1999)—this is also a myth. Indeed, one should hold suspect scores on any tests that are intended to predict school achievement but do not manifest the same gap that is present in school achievement.

Nonetheless, there is a growing body of evidence suggesting that test scores, although not biased in the traditional sense, may be operating differently in different cultural groups. In recent meta-analyses of stereotype threat (the depressing of scores on the basis of negative stereotypes in academic environments) studies using both standardized measures and classroom performance, and large samples of students from kindergarten through college from five countries, Walton and Spencer (in press) drew the following conclusions: (a) there is no evidence of bias in the predictive validity of standardized achievement test

scores, (b) stereotype threat depresses performance in negatively stereotyped groups, and, most important (c) the performance of stereotyped and nonstereotyped groups on both grades and standardized tests is comparable when threat is removed—in other words, the distributions come into alignment. As Walton and Spencer (in press) noted, the

[B]ias in standard measures of academic performance—both test scores and classroom grades . . . results from psychological threat [which] causes measures of academic performance to underestimate the true intellectual ability and potential of ethnic minority students and of women in quantitative fields. (pp. 14-15).

This is another body blow to the practice of using single test scores.

Conclusion

Despite the casual and ubiquitous use of the term *gifted* in the literature, the field has still not achieved a consensus definition of giftedness, nor is such a consensus evident in the near future. The term is frequently used, without qualification, to describe individuals with high IQs as well as individuals with outstanding performance in a variety of disparate academic and nonacademic domains. It is clear that no single score allows us to make the most accurate predictions about outstanding performance, even in the academic domains, as Terman's studies demonstrated (Borland, 2008). Outstanding accomplishments by children and adults are *multivariate* in nature and require multivariate explanations. This is a situation in which the evidence base unequivocally trumps the principle of parsimony, and GATE scholars must work hard to dispel the myth of *the one score tells all* in research and in the rhetoric that we employ.

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